**Cassondra Easterling**

**Advanced Kindergarten ESL**

**90-minute block**

**Sources of Waste and Effects on Our Rivers and Streams**

**Aim:** Students will be able to identify sources of waste and make observations about how waste can affect our rivers and streams. Students will be able to conduct an experiment to investigate how waste (e.g., used motor oil, factory waste, fertilizer applications to lawns or fields, manure spreading on cropland, etc.) pollutes water. Students will be able to identify water as a natural resource, which may be polluted.

**Linguistic Goal**: Speaking in complete sentences using academic language with modeling and support (One source of waste is…, The mud moves…, Waste moves…, If the trough were on a hill…, If it were a windy/rainy day…)

**Vocabulary**: Waste, Pollution, Source, Factory, Natural Resource, Solid, Liquid

**Reading/Writing Goal**: Independent writing using capital letters, finger spaces, punctuation, and phonetic spelling

**Content Goal/Interdisciplinary Connections**: Science Connections: Ability necessary to do scientific inquiry, Organisms and environments, Position and motion of objects

**ESL Standards**: Standard 1: English for information and understanding; Standard 3: English for critical analysis and evaluation; Standard 4: English for social and classroom interaction

**National Core Standards**: K.RF.3 - Know and apply grade-level phonics and word analysis skills in decoding words; K.W.2. - Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. K.W.8 - With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. K.SL.1 - Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. K.L.2 - Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. K.L.6 - Use words and phrases acquired through conversations, reading and being read to.

**Professional Goals**: Danielson’s 3c: Engaging Students in Learning- All students are cognitively engaged in the activities and assignments in their explorations of content. Instructional materials and resources are suitable to the instructional goals and engage students mentally. The lesson’s structure is coherent, allowing for reflection and closure.

**Differentiation**: Hands on experiment, Video, Sentence starters, Photographs, Chart

**DOK Levels**: Level 1 – Identify; Level 2 – Predict, Make Observations, Classify; Level 3 – Investigate

**Materials**: Video, Projector, Chart paper, Markers, Plastic bottles, Tape, Water, Mud, Possibly paper/sand/food coloring, Writing paper, Pencils

**Motivation**: Teacher will show a video clip on sources of waste and the effect on our water. A possible video to show is “Water Pollution Blues,” available at http://www.grinningplanet.com/embed/water-pollution-video-for-kids/water-pollution-blues-big-green-tv.htm. Teacher will show a portion of the video clip three times. The first time, the teacher will turn off the sound and will model narrating what she sees happening in the video clip, making gestures and pointing at visuals in the clip. The second time, the students will whisper from their seats also narrating what is happening in the video using pointing and gestures. The third time, the teacher will turn on the sound and the students will watch the video clip and listen to the accompanying song.

**Procedure**:

**Mini-Lesson Skill to be Taught**: Using a video and experiment to determine sources of waste and how the waste affects our rivers and streams

**Mini-Lesson Format**: Using the motivation as a jumping off point, teacher will ask students to brainstorm sources of waste that can affect our rivers and streams. Students will turn and talk using a sentence starter (One source of waste is…) and then share ideas with the class. Teacher will scribe responses on a Sources of Waste chart. Teacher will show additional photographs to further illustrate the sources of waste the students share. Students will read responses. Class will conduct an experiment to investigate the way waste moves in our rivers and streams. Teacher will construct a long trough using recyclable one-liter water bottles slit in two and securely attached to each other, with tops and bottoms in the middle of the trough removed. A shallow water layer will be placed. Students will add a small quantity of mud at one end of the trough and agitate the trough by moving it gently from side to side and by adding water to it occasionally at one end. Students will describe how the mud travels in the trough and how added water and movement of the trough affect the mud's movement. Teacher will ask questions such as *Does the mud move at the same speed all the time? What makes it move faster or slower?* With teacher's prompts, students will work to name similarities with how waste moves in waterways. Teacher will ask, *Does the solid part of the mud move faster or slower than the liquid part? What would happen if the trough were on a hill? What if it were a rainy or windy day?* As an extension, other materials could be used in addition to the mud to see how they move in the water, for example, small pieces of paper, sand or food coloring.

**Individual** **Work**: Using the information from the chart, video, experiment and the class discussion, students will select one source of waste and will draw a detailed picture of how that type of waste is likely to affect our rivers and streams. Students will write a sentence or more explaining their drawing.

**Conferencing**: Teacher will circulate to assist individual students during independent writing time.

**Share Session**: Students will be selected to share their drawings and sentences with the class.

**Reflection**: What did we learn today? How can we use this information to help the environment?

**Rubric**:

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| 2 | 1 | 0 |
| I drew a detailed picture.  I started my sentence with a capital letter.  I used finger spaces.  I ended my sentence with a period.  I tapped out my words.  I picked a source of waste and showed how it affects our rivers and streams.  I wrote a sentence explaining my drawing. | I used some details in my picture.  I tried to use a capital letter, finger spaces and/or a period.  I tried to tap out my words.  I picked a source of waste and showed how it affects our rivers and streams.  I tried to write a sentence explaining my drawing. | I used few or no details in my drawing.  My teacher cannot read my writing.  I did not pick a source of waste and show how it affects our rivers and streams.  I did not do anything. |

# Source: The Vegetarian Resource Group, Lesson Plan: Clean Water for Everyone Today and Tomorrow, http://www.vrg.org/environment/K-2\_lesson\_plan\_clean\_water.php